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10/070,954	07/22/2002	Stephen Arkinstall	ARKINSTALL=1	4903
1444	7590	07/05/2005	EXAMINER	
BROWDY AND NEIMARK, P.L.L.C. 624 NINTH STREET, NW SUITE 300 WASHINGTON, DC 20001-5303			COLEMAN, BRENDA LIBBY	
			ART UNIT	PAPER NUMBER
			1624	

DATE MAILED: 07/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/070,954

Applicant(s)

ARKINSTALL ET AL.

Examiner

Brenda L. Coleman

Art Unit

1624

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 01 April 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-41 is/are pending in the application.
- 4a) Of the above claim(s) 4 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 5-41 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

18

### DETAILED ACTION

Claims 1-41 are pending in the application.

This action is in response to applicant's amendment filed April 1, 2005. Claims 1-3 and 5-22 have been amended and claims 27-41 are newly added.

### ***Response to Amendment***

Applicant's arguments filed April 1, 2005 have been fully considered with the following effect:

1. The applicant's amendments and arguments are sufficient to overcome the objection to the specification labeled paragraphs 3 and 4 in the last office action, which are hereby **withdrawn**.
2. With regards to the 35 U.S.C. § 112, first paragraph rejection of claims 13-20 and 23-26 the applicant's amendments and remarks have been fully considered but they are not found persuasive.
3. With regards to the 35 U.S.C. § 112, first paragraph rejection of claims 30, 33-35, 38 and 59-62 labeled paragraph 3 maintained in the last office action, the applicants' arguments have been fully considered, however they were not found persuasive. The applicants' stated that the sulfonamides of the present invention are inhibitors of JNK (c-Jun Kinase) and that it is well known that JNK is involved in inflammatory, autoimmune disorders and cancer. The applicants' argue that numerous scientific articles have been published, which article has been referenced in the specification at page 2-4 of the application as filed. The references include: Yang et al., *Nature* Vol. 389 pages 865-

Art Unit: 1624

870, 1997; Xie et al., *Structure* Vol. 6, No. 8, pages 983-991, 1998; and Kumagae et al., *Molecular Brain Research* Vol. 67, pages 10-17, 1999 is sufficient in the enablement of the claimed invention.

The applicant's arguments in reference to the journal articles Yang are not persuasive in that Yang is speculative at best to the treatment of neurological disorders, ranging from acute ischemia to chronic neurodegenerative diseases. Xie states that "selective modulation of JNK3 activity **could potentially** provide therapeutic intervention for neurodegenerative diseases such as stroke and epilepsy". Kumagae states that "identifying each JNK in the brain and comparing regulation, activation and expression in the various neural cell classes are needed to understand the differential responses to acute and chronic disease" and "actual changes in JNK activities in the Alzheimer's disease brain are not yet known". The applicants remarks with respect to the reference provided with the response filed April 1, 2005, i.e. Manning et al. is not persuasive in that the article was not public knowledge at the time of filing. Hence, at the time of filing the state of the art with regards to JNK was such that it is speculative at best to the therapeutic use associated with JNK. See MPEP 2164.05(a)

**2164.05(a) Specification Must Be Enabling as of the Filing Date**

The state of the art existing at the filing date of the application is used to determine whether a particular disclosure is enabling as of the filing date. Publications dated after the filing date providing information publicly first disclosed after the filing date generally cannot be used to show what was known at the time of filing. In re Gunn , 537 F.2d 1123, 1128, 190 USPQ 402, 405 06 (CCPA 1976); In re Budnick, 537 F.2d

Art Unit: 1624

535, 538, 190 USPQ 422, 424 (CCPA 1976) (In general, if an applicant seeks to use a patent to prove the state of the art for the purpose of the enablement requirement, the patent must have an issue date earlier than the effective filing date of the application.). While a later dated publication cannot supplement an insufficient disclosure in a prior dated application to make it enabling, applicant can offer the testimony of an expert based on the publication as evidence of the level of skill in the art at the time the application was filed. *Gould v. Quigg*, 822 F.2d 1074, 1077, 3 USPQ2d 1302, 1304 (Fed. Cir. 1987).

The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to use the invention commensurate in scope with these claims where the disorder is associated with the modulation of JNK pathway. As stated in the last office action it is difficult to treat many of the disorders claimed herein. The applicants discuss the use of modulation of the JNK pathway in the treatment of Alzheimer's disease, however the use of JNK inhibitors have only been linked to stroke and epilepsy which in turn is speculative as indicated by Xie.

Where the utility is unusual or difficult to treat or speculative, the examiner has authority to require evidence that tests relied upon are reasonably predictive of in vivo efficacy by those skilled in the art. See *In re Ruskin*, 148 USPQ 221; *Ex parte Jovanovics*, 211 USPQ 907; MPEP 2164.05(a).

Patent Protection is granted in return for an enabling disclosure of an invention, not for vague intimations of general ideas that may or may not be workable. Tossing out

the mere germ of an idea does not constitute enabling disclosure. *Genentech Inc. v. Novo Nordisk* 42 USPQ2d 1001.

Claims 13-20, 23-26, 32-34 and 37-41 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention, for reasons of record and stated above.

4. The applicant's amendments and arguments are sufficient to overcome the 35 USC § 112, second paragraph rejections of claims 1-3 and 5-26, labeled paragraph 7a), c), d), e), f), g), m), p), s), t), w), x), y), z), ab), ac), ad), ae) and af) of the last office action, which are hereby **withdrawn**. However, with regards to the 35 USC § 112, second paragraph rejections of claims 1-3 and 5-26, labeled paragraph 7b), h), i), j), k), l), n), o), q), r), u), v) and aa), the applicant's amendments and arguments have been fully considered, however they were not found persuasive.

b) The applicants' stated that the ranges of limitations have been deleted from the claims and presented in new claims. However, while claim 13 has been amended to delete "preferably O" in the definition of X it has not been deleted from claims 1 or 2.

Claims 1 and 2 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention, for reasons of record and stated above.

Art Unit: 1624

h) The applicants' stated that claim 3 has been amended to correct the language for Markush groups. However, the definition of  $L^1$  and  $L^2$  have not been amended, i.e. an "and" is needed between  $-NSO_2R^3$  and  $-SO_2NR^{3'}R^3$ .

Claim 3 is rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention, for reasons of record and stated above.

i) The applicants' stated that claim 3 has been amended to correct the language for Markush groups. However, the variables  $R^3$  and  $R^{3'}$  have not been amended, i.e. an "and" is needed between  $R^3$  and  $R^{3'}$ .

Claim 3 is rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention, for reasons of record and stated above.

j) The applicants' stated that claim 3 has been amended to correct the language for Markush groups. However, the definition of  $R^3$  and  $R^{3'}$  have not been amended, i.e. an "and" is needed between aryl- $C_1$ - $C_6$ -alkyl and substituted or unsubstituted heteroaryl-- $C_1$ - $C_6$ -alkyl.

Claim 3 is rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention, for reasons of record and stated above.

k) The applicants' stated that claim 3 has been amended to correct the language for Markush groups. However, the definition of the substituents on the

aryl and heteroaryl moieties in  $R^3$  and  $R^3$  have not been amended, i.e. an "and" is needed between sulfoxy and  $C_1-C_6$ -thioalkoxy.

Claim 3 is rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention, for reasons of record and stated above.

l) The applicants' stated that claim 3 has been amended to correct the language for Markush groups. However, the definition of  $R^6$  has not been amended, i.e. an "and" is needed between sulfonyl and oxo ( $=O$ ).

Claim 3 is rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention, for reasons of record and stated above.

n) The applicants' failed to comment on the rejection of claim 5 with respect to the rejection of the definition of  $Ar^1$  and  $Ar^2$ , which is not stated in the form of a proper Markush group, i.e. an "and" is needed between furyl and pyridyl.

Claim 5 is rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention, for reasons of record and stated above.

o) The applicants' failed to comment on the rejection of claim 5 with respect to the rejection of the definition of substituents for the moieties of  $Ar^1$  and  $Ar^2$ , which is not stated in the form of a proper Markush group, i.e. an "and" is needed between sulfonyl and  $C_1-C_6$ -thioalkoxy.



Claim 5 is rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention, for reasons of record and stated above.

q) The applicants' stated that claim 8 has proper antecedent basis in that thioxo-dihydropyridine is a substituted heteroaryl group as recited in claim 1. However, the definition of the definition of the substituents on the heteroaryl ring in the specification and claim 5 fails to describe the thioxo moiety.

Claim 8 is rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention, for reasons of record and stated above.

r) The applicants' stated that claim 8 has been amended to correct the language for Markush groups. However, the definition of Ar<sup>1</sup> has not been amended, i.e. an "and" is needed before pyrazole.

Claim 8 is rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention, for reasons of record and stated above.

u) The applicants' stated that claim 10 has been amended to correct the self-evident error in the recitation of a C<sub>1</sub>-C<sub>12</sub> alkyl group. The definition of R<sup>3</sup> while it is noted has been amended to a C<sub>1</sub>-C<sub>6</sub> alkyl group, however, R<sup>3</sup> in claim 9 from which claim 10 depends is a C<sub>1</sub>-C<sub>4</sub> alkyl group.

Claim 10 is rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention, for reasons of record and stated above.

v) The applicants' stated that claim 10 has been amended to correct the language for Markush groups. However, the definition of R<sup>3</sup> has not been amended, i.e. an "and" is needed between aryl-C<sub>1</sub>-C<sub>6</sub>-alkyl and heteroaryl-C<sub>1</sub>-C<sub>6</sub>-alkyl.

Claim 10 is rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention, for reasons of record and stated above.

aa) The applicants' stated that the Examiner's comments are not understood and are entirely without basis. However, claims 13-20, 23-26, 32-34 and 37-41 generically claims the method of treating a disorder responsive to the activity of modulation of JNK pathway. The rejection of claims 13-20, 23-26, 32-34 and 37-41 were on the grounds that it is indefinite, in that it is not known which diseases are capable of being responsive to the activity of JNK. The scope of diseases and/or disorders associated with the activity of JNK could alter over time. The applicants' are not entitled to preempt the efforts of others.

Claims 13-20, 23-26, 32-34 and 37-41 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention, for reasons of record and stated above.

5. With regards to the provisional obviousness-type double patenting rejection of claims 1-3 and 5-26 labeled paragraph 8 over copending Application No. 10/381,197 of the last office action, the applicant's arguments have been fully considered but are not found persuasive. The applicant's stated that in 10/381,197, the compounds of formula I are such that Ar<sup>2</sup> is a phenyl moiety and that the presently claims compounds are quite different from these compounds. However, the compounds, compositions and method of use of the compounds of formula I of the instant invention, are such that Ar<sup>2</sup> is a substituted or unsubstituted aryl or heteroaryl. Claim 5, which is dependent upon claim 1, specifically defines Ar<sup>1</sup> and Ar<sup>2</sup> as phenyl, thienyl, furyl and pyridyl. It is noted that Ar<sup>2</sup> in 10/381,197 is phenyl, thus the rejected claims have been corrected with respect to Ar<sup>2</sup>, i.e. claims 7-12 and 36 are limited to thienyl and furyl.

Claims 1-3, 5, 6, 13-35 and 37-41 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-19 of copending Application No, 10/381,197, for reasons of record and stated above.

6. With regards to the provisional obviousness-type double patenting rejection of claims 1-3 and 5-26 labeled paragraph 9 over copending Application No. 10/381,200 of the last office action, the applicant's arguments have been fully considered but are not found persuasive. The applicant's stated that in 10/381,200, the compounds of formula I are such that Ar<sup>2</sup> is an aryl or heteroaryl group having at least one hydrophilic substituent. The hydrophilic substituent is specifically exemplified in claim 5 where the

Art Unit: 1624

hydrophilic group is  $\text{COOR}^3$ ,  $\text{CONR}^3\text{R}^{3'}$ , OH, a  $\text{C}_1\text{-C}_4$  alkyl substituted OH or amino group, a hydrazido carbonyl group, sulfate, a sulfonate, an amine or an ammonium salt. Several examples of 10/381,200 are such that the thienyl group, i.e.  $\text{Ar}^2$  is substituted with  $\text{COOH}$ ,  $\text{COOEt}$ ,  $\text{CONH}_2$ , etc. Therefore, the compounds, compositions and method of use of the compounds of formula I of the instant invention, are disclosed in 10/381,200.

Claims 1-3 and 5-41 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-16 of copending Application No, 10/381,200, for reasons of record and stated above.

7. With regards to the provisional obviousness-type double patenting rejection of claims 1-3 and 5-26 labeled paragraph 10 over copending Application No. 10/381,665 of the last office action, the applicant's arguments have been fully considered but are not found persuasive. The applicant's stated that in 10/381,665, the compounds of formula I are such that the 4-12 membered saturated cyclic or bicyclic alkyl Y is substituted with at least one ionizable moiety to which a lipophilic chain is attached. The ionizable moiety is specifically exemplified in many of the species where several examples of 10/381,665 are such that the piperidine of Y is substituted with  $\text{NH(Et)}$ ,  $\text{NH(Bu-n)}$ ,  $\text{NH}((\text{CH}_2)_4\text{Me})$ ,  $\text{NH}((\text{CH}_2)_5\text{Me})$ ,  $\text{NH}(\text{CH}_2(3\text{-chlorophenyl}))$ ,  $\text{NH}(\text{CH}_2\text{-pyridinyl})$ ,  $\text{NH}((\text{CH}_2)_2\text{-pyridinyl})$ ,  $\text{NH}(\text{CH}_2\text{-quinolineyl})$ ,  $\text{NH}(\text{CH}_2\text{-naphthyl})$ ,  $\text{NH}((\text{CH}_2)_2(4\text{-hydroxyphenyl}))$ ,  $\text{NH}((\text{CH}_2)_2\text{-thienyl})$ ,  $\text{NH}((\text{CH}_2)_3\text{-phenyl})$ , etc. Therefore, the compounds, compositions and method of use of the compounds of formula I of the instant invention, are disclosed in 10/381,665.

Art Unit: 1624

Claims 1-3 and 5-41 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-16 of copending Application No, 10/381,665, for reasons of record and stated above.

In view of the amendment dated April 1, 2005, the following new grounds of rejection apply:

***Election/Restrictions***

8. Claim 4 is withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on October 20, 2004.

9. Applicants are reminded of the non-elected subject matter present in the claims which is as follows:

- a) In claim 3, the definition of L<sup>1</sup> and L<sup>2</sup> taken together form a 4-8-membered, substituted or unsubstituted saturated cyclic alkyl or heteroalkyl group;
- b) In claim 3, the definition of L<sup>1</sup> and L<sup>2</sup> taken together form a 4-8-membered, substituted or unsubstituted saturated cyclic alkyl or heteroalkyl group; and
- c) In claim 13, the definition of Y is an unsubstituted or a substituted 4-12-membered saturated cyclic or bicyclic alkyl containing at least one nitrogen atom, whereby one nitrogen atom within said ring is forming a bond with the sulfonyl group of formula I thus providing a sulfonamide.

***Information Disclosure Statement***

10. The applicants' Information Disclosure Statement filed April 21, 2003 listing two copending applications on the transmittal form, i.e. at the bottom of page 4 have been considered.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

11. Claims 1-3, 5-10 and 13-41 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The omission of an element from the proviso constitutes new matter when the specification specifically excludes the compounds. The proviso where X is oxygen and Y is a 4-8 membered saturated cyclic alkyl containing one or two nitrogen atoms, Y shall not be substituted by a group - (C=O)N(R,R') which is excluded in the proviso in the specification.

Applicant is required to cancel the new matter in the reply to this Office action.

12. Claims 2, 3 and 29-31 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to reasonably

convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The amendment to the definition of Y wherein Y is a piperidino group is not described in the specification for the genus of formula I

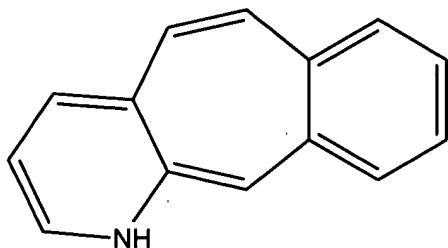
Applicant is required to cancel the new matter in the reply to this Office action.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

13. Claims 1-3, 5-10 and 13-41 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The following reasons apply:

a) Claims 1-3, 5-10 and 13-41 are vague and indefinite in that it is not known what is meant by the proviso at the top of page 5 where the substituents on Y are not benzo (5,6) cyclohepta (1,2b) pyridine or a benzo (5,6) cyclohept (3,4) ene (1,2b) pyridine. It is believed that the applicants intended benzo[5,6]cyclohepta[1,2-b]pyridine



benzo[5,6]cyclohepta[1,2-b]pyridine

or a benzo[5,6] cyclohept[3,4]ene[1,2-b]pyridine of which Chemdraw could not generate a structure.

- b) Claim 1 is vague and indefinite in that it is not known what is meant by the semicolon, which appears prior to the period. See line 5 on page 5.
- c) Claim 3 recites the limitation "a sulfonamide compound according to claim 2" in lines 1-2 of the claim. There is insufficient antecedent basis for this limitation in the claim.
- d) Claim 9 is vague and indefinite in that it is not known what is meant by the variable  $n'$  which is not defined within the claim.
- e) Claim 9 is vague and indefinite in that it is not known what is meant by the definition of  $R^6$ , which includes the moiety nitric cyans.
- f) Claim 9 is vague and indefinite in that it is not known what is meant by the definition of  $R^6$ , which includes "compounds".
- g) Claim 9 recites the limitation "n is an integer of from 0 to 4" in the eighth line of the claim. There is insufficient antecedent basis for this limitation in the claim.
- h) Claim 9 is vague and indefinite in that it is not known what is meant by the capital letter "W" in the paragraph beginning Wherein  $L^1$  and  $L^2$  are independently selected from. Capital letters are only used at the beginning of the claim.
- i) Claim 9 recites the limitation "substituted or unsubstituted  $C_2-C_4$  alkyl optionally containing 1-3 heteroatoms and optionally fused with aryl or heteroaryl" in the definition of  $L^1$  and  $L^2$ . There is insufficient antecedent basis for this limitation in the claim.



Art Unit: 1624

- j) Claim 9 is vague and indefinite in that it is not known what is meant by the moiety  $-\text{NSO}_2\text{R}^3$ , which is not valence satisfied. See line 4 on page 11.
- k) Claim 9 is vague and indefinite in that it is not known what is meant by the moiety  $-\text{SO}_2\text{NR}^3$ , which is not valence satisfied. See line 4 on page 11.
- l) Claim 9 is vague and indefinite in that it is not known what is meant by the capital letter "W" in the paragraph beginning Wherein  $\text{R}^3$  and  $\text{R}^{3'}$  being substituents independently. Capital letters are only used at the beginning of the claim.
- m) Claim 9 is vague and indefinite in that it is not known what is meant by the capital letter "S" in the paragraph beginning Said aryl or heteroaryl groups being optionally. Capital letters are only used at the beginning of the claim.
- n) Claim 9 is vague and indefinite in that it is not known what is meant by pr before  $\text{L}^1$  and  $\text{L}^2$  taken together form a 4-8-membered, substituted or unsubstituted saturated cyclic alkyl or heteroalkyl group.
- o) Claim 10 is vague and indefinite in that it is not known what is meant by "compounds" in the second line of the claim.
- p) Claim 10 recites the limitation "H" in the definition of  $\text{R}^6$ . There is insufficient antecedent basis for this limitation in the claim.
- q) Claim 10 recites the limitation "a 5-membered cyclic group containing 3 heteroatoms" in the definition of  $\text{L}^1$ . There is insufficient antecedent basis for this limitation in the claim.

r) Claim 10 recites the limitation "aryl-C<sub>2</sub>-C<sub>6</sub> alkyl" in the definition of R<sup>3</sup>.

There is insufficient antecedent basis for this limitation in the claim.

s) Claims 27-31 are vague and indefinite in that it is not known what is meant by "compounds" in the first line of each of the claims.

t) Claims 29-30 recite the limitation "sulfonamide compounds according to claim 2" in lines 1-2 of the claim. There is insufficient antecedent basis for this limitation in the claim.

u) Claim 36 is vague and indefinite in that it is not known what is meant by L1 where there is no L1 in formula I.

### ***Claim Objections***

14. Claim 22 is objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim is not stated in the alternative. See MPEP § 608.01(n).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brenda L. Coleman whose telephone number is 571-272-0665. The examiner can normally be reached on 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James O. Wilson can be reached on 571-272-0661. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR.

Art Unit: 1624

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Brenda L. Coleman  
Primary Examiner Art Unit 1624  
June 27, 2005